

REMARKS

Claims 1, 2, 3-7, 9-11, and 13-27 are pending in this application. In the Office Action mailed 2/7/2005, the Examiner rejected claims, claims 1, 2, 3-7, 9-11, and 13-20 under 35 U.S.C. §103, and withdrew from consideration claims 21-27 as being directed to a non-elected invention. The drawings filed on 10/8/2005 were accepted.

By this Amendment, claim 1 is amended.

The foregoing amendment and the following remarks are believed to be fully responsive to the outstanding office action, and are believed to place the application in condition for allowance.

Specification and Drawings

Formal drawings are being submitted herewith as replacement sheets 1-6. Replacement sheets 3 and 4 present Fig. 4 as Figs. 4A and 4B. Figs. 4A and 4B include reference signs. No additional amendments to Figs. 4A and 4B have been made by way of this paper. Applicants request consideration and approval of the formal drawings by the Examiner.

Presenting Fig. 4 as Figs. 4A and 4B necessitated amendments to the substitute specification as described on pages 8 and 9 of this paper. Applicants request consideration and approval of the amendments to the substitute specification by the Examiner.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 3-7, 9-11, 13, and 14-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shin (USP 6351320).

Claim 1

Claim 1 is amended to more aptly define one aspect of the invention. This is done without substantially changing the scope of the claim and in an attempt to facilitate the Examiner's understanding of claim 1.

Claim 1 as amended is as follows:

A method of defining printer media and inking intensity compatibility in a printing system comprising the steps of:

identifying a printer employing specified color inks for use in color printing, and identifying a color substrate for use in color printing;

printing a color test pattern of a plurality of test patches on the identified substrate, with the identified printer;
generating a tone scale curve for each color ink in the color test pattern, using the plurality of test patches;
selecting one limiting condition that controls color ink and color substrate compatibility for the identified printer and the identified substrate;
determining an upper ink limit for the identified substrate based on ink and substrate parameters in accordance with the one limiting ink condition;
and
using the upper ink limit to generate a tone scale to calibrate any ink color employed by the identified printer for printing on the identified substrate.

1. The Shin Patent Does Not Teach The Method Step Of Selecting One Limiting Condition As In Amended Claim 1.

The Examiner asserts that col. 6, lines 36-39, in Shin teaches the step of selecting one limiting condition in claim 1. However, Shin at col. 6, lines 36-39, describes generating three different color correction lookup tables for three different media types, and in subsequent lines Shin describes the reasoning by which one of the three tables is selected. Shin, in this instance, is concerned with selecting which of the media maximizes the dynamic range of ink and at the same time does not sacrifice any color gamut. See col. 6, lines 64-66. Thus, Shin's objective is to maintain the greatest possible color gamut and the best color fidelity. For this purpose, Shin does not teach the method step of "selecting one limiting condition that controls color ink and color substrate compatibility for the identified printer and the identified substrate" as in amended claim 1.

2. The Shin Patent Does Not Teach The Method Step Of Determining An Upper Ink Limit As In Amended Claim 1.

The Examiner asserts that col. 6, lines 64-66, in Shin teaches the step of determining an upper ink limit in claim 1. However, Shin at col. 6, lines 64-66, describes selecting which of the media maximizes the dynamic range of ink and at the same time does not sacrifice any color gamut. This is based on consideration of three different color correction lookup tables and on a selection of one of those tables. Thus, Shin's objective is to maintain the greatest possible

color gamut and the best color fidelity. Shin is not concerned with "determining an upper ink limit for the identified substrate" as in amended claim 1.

3. It Would Not Be Obvious To One Skilled In The Art In View Of The Shin Patent To Arrive At The Method Step Of Using The Upper Ink Limit To Generate A Tone Scale As In Amended Claim 1.

The Examiner asserts that col. 6, line 64 – col.7, line 8, and col. 9, lines 12-15, in Shin teaches the step of determining an upper ink limit to generate a tone scale in claim 1. However, in view of the Applicant's foregoing remarks in paragraphs 1. and 2. above regarding amended claim 1, e.g. Shin is not concerned with "determining an upper ink limit for the identified substrate", the Examiner's assertion is not understood. A further explanation is requested.

The Applicant's foregoing remarks in paragraphs 1. and 2. support a lack of motivation for one skilled in the art in view of Shin for " using the upper ink limit to generate a tone scale to calibrate any ink color employed by the identified printer for printing on the identified substrate" as in amended claim 1.

Claim 14

1. It Would Not be Obvious To One Skilled In The Art In View Of The Shin Patent To Arrive At The Method Step Of Employing A Portion Of The Color Test Pattern For Determining The Threshold For Excessive Ink Coverage For The Identified Printer And Substrate As In Claim 14.

The Examiner is correct that col. 5, lines 28-53, in Shin teaches printing color calibration test sheets each with a plurality of color test patches, and that Shin teaches employing the test patterns to determine the dynamic range of the deposited inks. However, the Examiner then acknowledges that Shin does not teach the step of " employing a portion of the color test pattern for determining the threshold for excessive ink coverage for the identified printer and substrate" as in claim 14. Thus, Shin would not use the test sheets or any portion of a color test pattern on one of the test sheets "for determining the threshold for excessive ink coverage for the identified printer and substrate" as in claim 14; that is, for identifying the threshold of excessive inking. Col. 6, line 64 – col., line 8, in Shin offers no motivation to one skilled in the art, to the contrary.

2. It Would Not be Obvious To One Skilled In The Art To Arrive At The Method Step Of Re-Calibrating A Range Of Tone Scale To Remain Below The

Threshold Of Excessive Ink Coverage For The Plurality Of Inks On The
Identified Substrate As In Claim 14.

The Examiner relies on col. 5, lines 26-53, and col. 6, lines 12-35, in Shin to support the assertion that Shin teaches "re-calibrating a range of tone scale to prevent the excessive ink coverage for the plurality of inks on the identified substrate". However, nowhere in these passages in Shin is there any discussion of calibration of tone scale. Moreover, Shin does not in any way address the prevention of excessive ink coverage. This mitigates against the Examiner's conclusion of obviousness.

Claims 3-7, 9-11, 13, and 15-20

Claims 3-7, 9-11, 13, and 15-20 are believed to be non-obvious over Shin for the reasons stated above.

Claim Rejections – 35 U.S.C. § 103

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Shin as applied to claim 1, and further in view of Perry et al. (USP 6483518).

The Examiner states that col. 6, lines 12-27, in Shin teaches the step of "measuring the color test pattern in L*a*b* color space referenced from substrate color" as in claim 2. While col. 6, lines 12-27, mentions the measurement of a test pattern I L*a*b* space, it makes no mention of measuring in reference to substrate color as in claim 2. If the Examiner disagrees, further explanation is requested.

The Examiner acknowledges that Shin does not teach the step of "using Euclidian distance from the substrate color as a measure of color intensity" as in claim 2. Instead, the Examiner adds Perry, col. 51-67, and col. 9, 50-61, to indicate it is known to employ Euclidian distance as a measure of color intensity. However, Perry concerns gamut modeling, especially for the purpose of determining whether a specific color is in or out of the color gamut, and therefore cannot be relevant to amended claim 1. Thus, one skilled in the art would not be motivated to combine Perry with Shin to arrived at claim 2.

Elections/Restrictions


The Examiner withdrew claims 21-27 from consideration as being directed to a non-elected invention which is independent or distinct from the invention of claims 1, 2, 3-7, 9-11, and 13-20. Since there are not any allowed claims to-date, the Applicant reserves the right to include claims 21-27 in this application -- depending on the wording of any allowed claims.

CONCLUSION

It is respectfully submitted that the Examiner has not established a *prima facie* case for obviousness in rejecting claims 1, 2, 3-7, 9-11, and 13-20. Thus, in view of the above amendment and remarks, this application is believed to be in condition for allowance.

The Examiner is invited to call the undersigned in the event that a phone interview will expedite prosecution of this application towards allowance or better form for appeal.

Respectfully submitted,


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Enclosures: 6 sheets of Replacement sheets - FIGS. 1-6

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.

Amendments to the Drawings:

Formal drawings are being submitted herewith as replacement sheets 1-6. Replacement sheets 3 and 4 present Fig. 4 as Figures 4A and 4B. Figures 4A and 4B include reference signs. No additional amendments to Figures 4A and 4B have been made by way of this paper. Applicants request consideration and approval of the formal drawings by the Examiner.

Attachments: Replacement Figures 1-6